

CLAIMS

What is claimed is:

1. A mounting arrangement for accepting a pipe through a boundary in a vehicle comprising:

a dash defining a boundary between an engine compartment and a passenger compartment;

a dash mat disposed adjacent to said dash;

a pipe extending through said dash between said engine compartment and said passenger compartment;

a first mounting plate positioned in said passenger compartment and accepting said pipe through a passage therein; and

a noise abating material disposed between said dash and said mounting plate, said noise abating material contacting an outer circumferential surface of said pipe and overlapping a portion of said dash mat in an assembled position.

2. The mounting arrangement of claim 1 wherein said passage includes a clearance greater than said outer circumferential surface of said pipe wherein said pipe extends through said passage without contacting said first mounting plate in said assembled position.

3. The mounting arrangement of claim 1 wherein said pipe extends through an opening incorporated on said dash, said opening having a clearance greater than said outer circumferential surface of said pipe wherein said pipe extends through said opening without contacting said dash in said assembled position.

4. The mounting arrangement of claim 1, further comprising:
a second mounting plate positioned in said engine compartment and accepting said pipe through a passage therein, said passage having a clearance greater than an outer circumferential surface of said pipe wherein said pipe extends through said passage without contacting said second mounting plate in said assembled position; and
a noise abating material disposed between said dash and said second mounting plate, said noise abating material contacting said outer circumferential surface of said pipe in said assembled position.

5. The mounting arrangement of claim 3 wherein said dash comprises:

a planar portion having said opening incorporated therein;
a first and second step portion extending from said planar portion toward said passenger compartment; and

a first and second flange portion extending from said respective first and second step portion, said first and second flange portion extending away from said pipe and substantially parallel to said planar portion.

6. The mounting arrangement of claim 5 wherein said first and second step portion contact said first noise abating material on an inboard side.

7. The mounting arrangement of claim 6 wherein said dash mat is disposed between said planar portion of said dash and respective first and second flange portions.

8. The mounting arrangement of claim 5 wherein said first mounting plate comprises:

a planar portion having said passage incorporated therein;

a first and second step portion extending from said planar portion toward said passenger compartment; and

a first and second flange portion extending from said respective first and second step portion, said first and second flange portion extending away from said pipe and overlapping a portion of said first and second flange portion of said dash and defining an overlap distance, wherein said overlap distance is less than a distance between said outer circumferential surface of said pipe and said opening in said dash in said assembled position.

9. The mounting arrangement of claim 4 wherein a fastener is coupled between said first and second mounting plate, said fastener passing through said first noise abating material, said dash and said second noise abating material.

10. A mounting arrangement for accepting heater pipes through a vehicle dash comprising:

 a dash defining a boundary between an engine compartment and a passenger compartment;

 a dash mat disposed adjacent to said dash;

 a pair of heater pipes extending through said dash between said engine compartment and said passenger compartment;

 a first mounting plate positioned in said passenger compartment and accepting said pipes through complementary passages therein;

 a second mounting plate positioned in said engine compartment and accepting said pipes through complementary passages therein;

 a first noise abating material disposed between said first mounting plate and said dash, said first noise abating material overlapping a portion of said dash mat; and

 a second noise abating material disposed between said second mounting plate and said dash.

11. The mounting arrangement of claim 10 wherein said dash comprises:

a planar portion having said opening incorporated therein;

a first and second step portion extending from said planar portion toward said passenger compartment; and

a first and second flange portion extending from said respective first and second step portion, said first and second flange portion extending away from said pipes and substantially parallel to said planar portion.

12. The mounting arrangement of claim 11 wherein said first and second step portion extend at an angle with respect to said planar portion of said dash and contact said first noise abating material on an inboard side.

13. The mounting arrangement of claim 12 wherein said pipes contact said first and second noise abating material and do not contact said dash and said first and second mounting plate in an assembled position.

14. The mounting arrangement of claim 12 wherein said first mounting plate comprises:

a planar portion having said passage incorporated therein;

a first and second step portion extending from said planar portion toward said passenger compartment; and

a first and second flange portion extending from said respective first and second step portion, said first and second flange portion extending away from said pipes and overlapping a portion of said first and second flange portion of said dash and defining an overlap distance, wherein said overlap distance is less than a distance between an outer circumferential surface of said pipes and said opening in said dash in said assembled position.

15. The mounting arrangement of claim 10 wherein a fastener couples said first mounting plate to said second mounting plate, said fastener positioned between said pipes and passing through said first noise abating material, said dash and said second noise abating material.

16. A mounting arrangement for accepting heater pipes through a vehicle dash comprising:

a dash defining a boundary between an engine compartment and a passenger compartment, said dash further comprising:

an opening incorporated in a planar portion of said dash for accepting the heater pipes;

a step portion extending at an angle from said planar portion; and

a flange extending from said step portion and laterally offset toward said passenger compartment;

a dash mat contacting said planar portion, said step portion and said flange portion;

a first mounting plate contacting said flange of said dash; and

a noise abating material disposed between said dash and said first mounting plate, said noise abating material contacting an outer circumferential surface of the heater pipes and said step portion of said dash;

wherein said dash mat and said first noise abating material overlap at said step portion.

17. The mounting arrangement of claim 16, further comprising:
 - a second mounting plate positioned in said engine compartment and accepting said pipes through a passage therein, said passage having a clearance sufficient to permit said pipes to extend through said passage without contacting said second mounting plate in said installed position; and
 - a noise abating material disposed between said dash and said second mounting plate, said noise abating material contacting pipes in said installed position.
18. The mounting arrangement of claim 17 wherein said step portion contacts said first noise abating material on an inboard side.
19. The mounting arrangement of claim 17 wherein said dash mat is disposed between said planar portion and said flange portion of said dash.